## REMARKS

Claims 1-23 are all the claims pending in the application. Claims 24 and 25 have been newly added.

**Claim Rejections**

- Claims 1-3, 6, 7, 9-13, 16, 18-21 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Isobe et al. (U.S. Patent Publication No. 2002/0025173) in view of Luxem (U.S. Patent Publication No. 2002/0044785). Applicant respectfully traverses this rejection in view of the following arguments.

As discussed in the specification at page 2, lines 5-24, prior art devices for calculating an amount of toner consumed have failed to take into account an amount of toner which adheres to non-image forming regions of a recording medium (i.e. fogging). Additionally, prior art devices have failed to take into account the amount of toner consumed by patch (test) images when calculating the total amount of toner consumption (*see* specification page 4, lines 2-11). However, the present application was prepared in consideration of at least these factors.

Claim 1 of the subject application sets forth a first amount of toner consumed in a region of a recording medium at which a toner image is formed. Claim 1 also sets forth calculating a second amount of toner which is consumed in a region of the recording medium at which a toner image is not formed. Consistent with the non-limiting exemplary embodiments of the specification, the second amount taught in claim 1 may be an amount consumed by fogging. Claim 1 then teaches determining a total amount of toner consumed based on the first and second amounts. Claim 2 sets forth a second amount which is the amount of toner consumed by forming a test image. In claim 2, this second amount is used in conjunction with the first amount to

determine a total amount of toner consumed. Therefore, devices consistent with claims 1 and 2 can add amounts of toner consumed by fogging or test images in a calculation of a total amount consumed.

Neither of the references cited by the Examiner, taken either alone or in combination, teach determining a total amount of toner consumed based on an amount of toner consumed in a region in which a toner image is not formed (i.e. the second amount of claim 1) or the amount of toner used to form a test image (i.e. the second amount of claim 2). Accordingly, the claims of the present invention are allowable of the Examiner's cited combination.

Isobe is directed at an image forming apparatus and method, which includes the calculation of an amount of toner consumed. Isobe teaches that X is the total amount of toner utilized and $\Delta X$ is amount of toner utilized which is added to the total to form a new total (i.e. $X=X+\Delta X$; *see* page 16, paragraphs [357]-[359]). The Examiner asserts that X and $\Delta X$ constitute first and second amounts which are added together. However, the Examiner acknowledges that the alleged Isobe second amount does not meet the claimed second amounts. For example, the alleged Isobe second amount does not meet the second amount of claim 1 because the alleged Isobe second amount is not related to the amount of toner consumed in a region where a toner image is not formed. In order to make up the deficiencies of Isobe, the Examiner cites Luxem.

Luxem is directed to measuring an actual amount of toner which is delivered (ACT). Luxem compares the actual amount to a desired amount (DES) and minimizes the difference between the actual and desired amount. (*see* paragraph [23] bridging pages 2 and 3) The amount of toner actually delivered in Luxem may be calculated using test images. The Examiner asserts that these test images may be considered second amounts. However, Luxem fails to teach

anything regarding using the alleged second amount of consumed toner to determine a total amount of toner consumed and fails to correct the deficiencies of Isobe.

First, with regard to claim 1, the amount of toner delivered to form the Luxem test images does not read on the second amount of claim 1. The second amount of claim 1 is related to an amount of toner consumed in a region of the recording medium at which the toner image is not formed. However, the Luxem test images are toner images. Whether the image is for a test or not, the measured values in Luxem are directed to a toner image. Therefore, the amount of toner delivered by Luxem does not read on the claimed second amount of claim 1.

With regards to claims 1-3, even if the amount of toner delivered to produce test images in Luxem were considered a second amount, there is still no suggestion to modify Isobe to meet the claimed invention. Isobe is directed at calculating a total amount of toner consumed by adding count numbers X and $\Delta X$. (*see* page 16 paragraphs [357]-[359]) There is no suggestion or motivation to determine the total amount of toner consumed based on a second amount and a first amount as claimed. This is true whether the claimed second amount is the amount of toner which is consumed in a second region of the recording medium at which the toner image is not formed (as set forth in claim 1), an amount of toner which is consumed by forming a test image (as set forth in claim 2), or an amount consumed for a purpose other than the formation of a toner image on a recording medium (as set forth in claim 3).

Luxem does not provide any motivation to modify Isobe to include the claimed second amounts with claimed first amount to determine a total amount. Luxem is merely directed to calculating the amount in a test image to minimize the difference between the actual (ACT) and desired (DES) amount of toner delivered. Luxem provides no suggestion for determining a total

amount of toner consumed based on the amount of toner used for test images and another amount of toner. The only motivation to determine a total amount of consumed toner from first and second amounts as claimed comes from the present disclosure. Because Luxem provides no motivation to change the Isobe calculation of the amount of toner consumed, even if Isobe were modified with Luxem, the Isobe calculations would remain unchanged. Luxem only provides motivation to minimize the difference between an actual amount of delivered toner to a desired amount. This could be accomplished without adjusting the Isobe calculations of a consumed amount of toner. Therefore, one of ordinary skill in the art would not have been motivated to modify Isobe to form the claimed invention, and if Isobe were modified by Luxem the resulting device would not meet the claimed invention.

Claims 6, 11-13 and 16 are allowable at least for reasons similar to those given above with respect to claims 1-3. Namely, Isobe is deficient at least in that the alleged second amounts do not meet the claimed second amounts and Luxem fails to provide any motivation to modify the Isobe calculation. Claims 1-3, 6, 11-13 and 16 are independent claims and claims 7, 9, 10, 18-21 and 23 depend from at least one of independent claims 1-3, 6, 11-13 and 16. Therefore, claims 7, 9, 10, 18-21 and 23 are allowable at least because of their dependency.

- Claims 4 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Isobe in view of Luxem and further in view of Izumizaki. Claims 4 and 14 depend from claims 3 and 13 respectively. Even if one of ordinary skill in the art were motivated to modify the combination of Isobe and Luxem with Izumizaki as suggested by the Examiner, the proposed modification still would not correct the above noted deficiencies of the Isobe and Luxem

combination. Therefore, claims 4 and 14 are allowable over even the combined teachings of Isobe, Luxem and Izumizaki.

- Claims 5 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Isobe in view of Luxem and further in view of Shimura et al. (JP2001-042729). Claims 5 and 15 depend from claims 3 and 13 respectively. Even if one of ordinary skill in the art were motivated to modify the combination of Isobe and Luxem with Shimura as suggested by the Examiner, the proposed modification still would not correct the above noted deficiencies of the Isobe and Luxem combination. Therefore, claims 5 and 15 would be allowable over even the combined teachings of Isobe, Luxem and Shimura.

**Allowable Subject Matter**

Applicant thanks the Examiner for indicating that claims 17 and 22 include allowable subject matter and would be allowable if rewritten in independent form. However, since the rejections of the corresponding base claims are believed to be overcome, Applicant has not rewritten these claims in independent form at this time.

**New Claims**

**Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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